



BUSINESS SYSTEMS MONITORING

The innovative way to measure and display energy –
efficient, fast and simple.

CONTROL YOUR ENERGY – SMART Business Energy Monitoring

Transparency is the key to success

In recent years, energy costs have developed into the strongest cost driver for businesses. For you as an entrepreneur the increasing financial burden is not without its problems. What is more, you currently have no way of actively and continuously influencing this situation and no tools to flexibly and sustainably adjust the energy cost item.

It was this state of affairs that motivated us to develop perfect solutions to display all power consumption to you. The products offer outstanding value for money and the possibility to monitor your energy flows.

The tables and graphs will make it easy for you to make decisions on energy-cutting measures such as selective investments or changes in behaviour. This will enable you to selectively reduce your operating costs, increase your competitiveness and go easy on the environment.

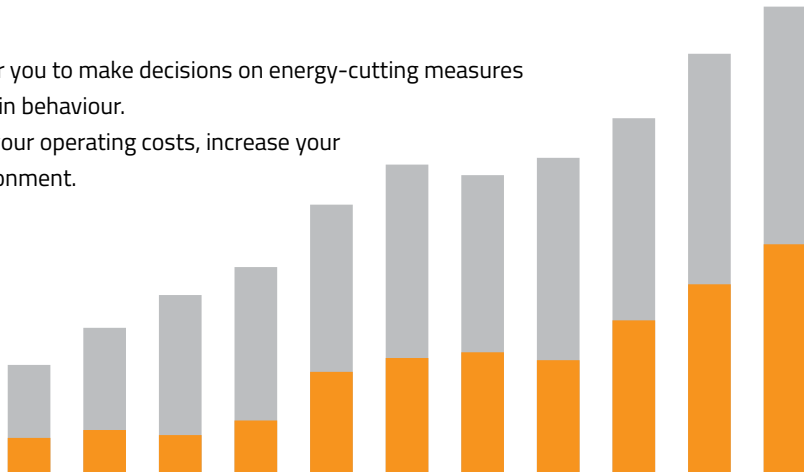


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Rev. 260515 V2.0



Smart4Energy – innovative products for cutting-edge energy control!

Innovation

The Smart4Energy brand stands for innovative products for energy monitoring, management and storage. Our products are of outstanding quality and easy to use.

Vision

Motivated by the changes on the energy market and the challenges presented by the new energy policy, we have set ourselves the goal of making energy efficiency and savings on resources affordable for everyone.

Customers

Our focus is placed on economically efficient products for households, businesses and industry at an attractive price-performance ratio. With cutting-edge technology, saving energy could not be simpler.

Environment

We attach the utmost importance to handling resources responsibly and protecting the environment.

Made in Germany

All of our products are designed, developed and manufactured in Germany, which is why they are worthy of the distinction “Made in Germany” and therefore satisfy the highest standards for private and industrial use.

Employees/partners

Our employees push innovation forward creatively and with great commitment. They meet the challenges presented by the young energy market with a passion for ultra-modern technology. Together we generate lasting and reliable assets for our customers and business partners.

Our product series:



Monitoring
Control costs systematically
See, understand and save energy



Data logging
Protect your investment
Monitor the power you generate



Management
Active energy management
Cut costs and use energy more efficiently



Storage systems
Get sustainable
Use your solar power yourself

Business Systems Monitoring

Discover the advantages of Business Smart4Energy Monitoring!

The importance of energy efficiency and saving energy in companies is increasing steadily. This is firstly attributable to the increasing scarcity of natural resources and to the new energy policy.

The shift to regenerative energies currently represents a huge burden on businesses. A more efficient use of energy is therefore necessary for all.

Our cutting-edge and patented monitoring solution enables you to keep tabs on your cost structure in its entirety. More precisely, our Business Smart Energy Monitor shows you in detail how much energy each device or machine is using. The Business Smart Energy Meter measures continuously so that any further decisions you need to make are based on an excellent data quality.



Our Smart4Energy Monitoring system is scalable to enable you to monitor your entire company or your machinery, giving you complete control over your energy costs. You can make investment decisions, initiate selective energy saving measures and benefit from available subsidies. You are also put in a position to derive correct forecasts from precise data from the past.

You achieve a sustainable improvement in your operating costs, and of course your competitiveness is improved. Nationally and internationally. Because high operating costs are hugely detrimental to the success of a country as an industrial location.



Smart energy users



Small companies
Take the strain off your bottom line with continuous and flexible cost control.



Medium sized companies
Pinpoint uneconomical devices with an excessively high consumption of energy by directly comparing your devices with each other or on the basis of current efficiency ratios. Analyses permit you to make your investment decisions backed up by relevant data.



Industry / manufacturing industry
Monitor all your production machinery and other consumers throughout your business. Pinpoint machine faults such as compressor damage at an early date.



Hotels / restaurants
Monitor your energy-intensive areas such as kitchen, air conditioning system, wellness areas and lighting.



Facility management / property owners
Monitor and network your properties and optimise the technical structure in your buildings.



Supermarkets / branch stores
Network your branch stores to obtain a global overview of your refrigerating chests and deepfreeze systems.



Computing centres
Find the highest energy consumers in your server park and recognise failures early on.



Installation – simple and effective

Business Energy Monitoring for trade and industry!

Our Business Monitoring products can be installed quickly and simply by an electrician. The devices are installed in a central location in your building (distribution (sub-distribution) directly on the top-hat rail or on the wall.

The supplied measuring transducers can then be connected to the Business Smart Energy Meter in order to record very different consumption points.

If the device is combined with the Business Smart Energy Monitor, the data recorded by the meter/s can be visually displayed in a web application.



Business Smart Energy Meter

Measure the power guzzlers in your company with our Business Smart Energy Meter!

The device can record up to 20 consumption points simultaneously. It records all necessary current flows at the electricity transfer point (building connection) on the conductors L1, L2, L3 + N with 4 measuring transducers (maximum 400 A).

The Business Smart Energy Meter is offered in three different power classes (electricity measurement):

- Type: 100 A transfer point / 40 A consumption points
- Type: 100 A transfer point / 100 A consumption points
- Type: 400 A transfer point / 400 A consumption points

- ✓ Easy to operate and install
- ✓ Central energy measurement
- ✓ Precise measurement results
- ✓ Low measurement tolerance
- ✓ Software update by USB

Business Smart Energy Monitor

Our Business Smart Energy Monitor will pinpoint your concealed power consumers. The measurement results are displayed to you in real time. Large areas can be covered and networked so that our Smart4Energy Monitor can be used to particularly good advantage in commerce and industry.

The Monitor saves the consumption data every 15 minutes and the data are read out via a LAN interface, for example, using your internal network.

Or make your data available globally on a PC or by a mobile app by connecting up to your internet router.

- ✓ Easy to operate and install
- ✓ Can be extended to up to 90 devices
- ✓ Clear consumption displays
- ✓ Long-term performance analysis
- ✓ No software installation necessary
- ✓ Automatic update function

Your path to smarter energy:



24 measurement inputs



Detailed measurement



Simple installation



Intelligent networking



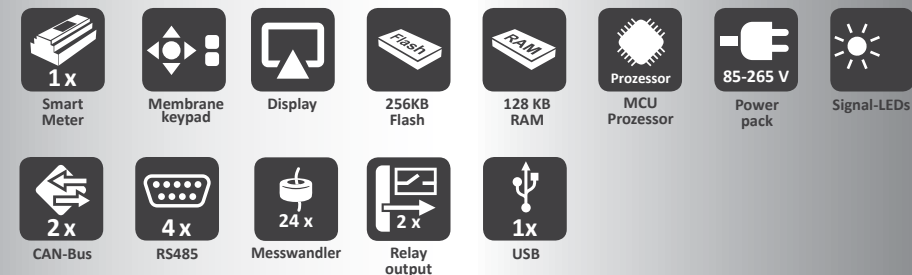
Cost-efficient



Business Smart Energy Meter



- ✓ Up to 24 measurement channels
- ✓ Extremely compact
- ✓ Replaces up to 8 traditional meters
- ✓ Large number of measured values
- ✓ Firmware update by USB
- ✓ Outstanding value for money



MADE IN GERMANY

GENERAL DATA

Mains voltage / mains frequency:	85 V _{AC} – 265 V _{AC} / 50 Hz – 60 Hz
Power consumption:	1,35 W (active power)
Temperature range:	-10°C bis +45°C
Protection:	External via circuit breaker 10 A – 16 A (tripping characteristic B)
Terminals:	Cross-section from 0,5 mm ² – 2,5 mm ²
Type of protection / safety class:	IP 20 / II
Installation site:	Switch cabinet/meter box, wall installation
Installation type:	Wall, top hat rail installation
Dimensions:	Height 90 mm / Width 160 mm / Depth 59 mm
Weight:	Approx. 265g
Colour:	orange

CONNECTIONS

Electricity measurement inputs:	20x electricity transducer inputs to measure individual AC consumption currents (type 100/40 = 40 A, type 100/100 = 100 A, type 400/100 = 100 A) 4x electricity transducer inputs to measure L1, L2, L3 & N (type 100/40 = 100 A, type 100/100 = 100 A, type 400/100 = 400 A)
Voltage measurement inputs:	3x voltage measurement of L1, L2 & L3 against N
Switching outputs:	2x relay transfer switches (250 V _{AC} / 16 A)
Interfaces:	1x CAN-Bus, 1x RS485 (terminal resistor selectable)

MEASURING TRANSDUCERS

Measuring transducers 40A / 100A / 400A:	8 mm / 13 mm / 30 mm (core Ø)
Connecting cable 40A / 100A / 400A:	1500 mm

INTERFACE PROTOCOLS

Modbus:	Variable ID – up to 30 devices possible
CAN-Bus:	Message Fix ID 6 – one device per bus possible

MEASUREMENT DATA RECORDING

Time period:	Current – hour – day – week – year
Voltage:	0 V – 400 V
Current type 100 / 40 • 100 / 100 • 400 / 400	0 A – 100 A / 0 – 40 A • 0 A – 100 A / 0 A – 100 A • 0 A – 400 A / 0 A – 100 A

STATISTICS

Hourly consumption value:	Current value / previous day
Daily consumption value:	Current month
Monthly consumption value:	Current year
Annual consumption value:	0 - 22 years
Average consumption:	Previous day / week / month / year

MEASUREMENT DATA OUTPUT

Display type:	2.4 inch/ monochrome
Data output:	Display 2.4 inch/ monochrome* ¹ (Business Smart Energy Monitor, Data Logger & Manager)

WARRANTY & SUPPORT

Manufacturer's warranty:	Manufacturer's 2 year warranty
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SUPPLIED ACCESSORIES

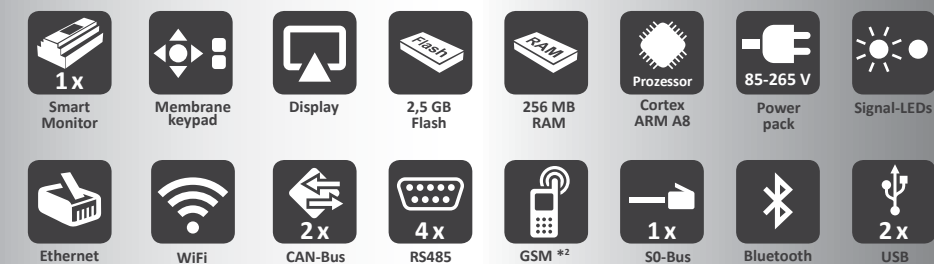
Scope of delivery type 100/40:	20x measuring transducers (type: A1000033 / 40 A), 4x measuring transducers (type: A1000034 / 100 A)
Scope of delivery type 100/100:	20x measuring transducers (type: A1000034 / 100 A), 4x measuring transducers (type: A1000034 / 100 A)
Scope of delivery type 400/400:	20x measuring transducers (type: A1000034 / 100 A), 4x measuring transducers (type: A1000049 / 400 A)
Others:	User Manual (German / English), 1x Mini USB cable 1m, various plugs

OPTIONAL ACCESSORIES*¹

Product supplement:	Business Smart Energy Monitor, -Data Logger, -Manager
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*¹ not included in the scope of delivery

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Business Smart Energy Monitor

Standard / Advanced



- ✓ High performance hardware
- ✓ Connection licences for 5 Business Smart Energy included
- ✓ Can be extended to up to 90 connection licences (90 Business Meters)
- ✓ Outstanding value for money
- ✓ Automatic firmware update possible
- ✓ Can be extended to include new functions at any time
- ✓ Wireless connection via WiFi and GSM *2 possible
- ✓ Variety of connection options



Advanced version shown

*1 not included in the scope of delivery
*2 GSM in the Advanced version only

GENERAL DATA	
Mains voltage / mains frequency:	Mains voltage: 85V _{AC} – 265V _{AC} / mains frequency: 50 Hz – 60 Hz
Power consumption:	Typical: 3,0 W / max: 10,0 W (active power)
Temperature range:	-10°C bis +45°C
Protection:	External via circuit breake 10 A – 16 A (tripping characteristic B)
Terminals:	Cross-section from 0,5 mm ² – 2,5 mm ²
Type of protection / safety class:	IP 20 / II
Installation site:	Switch cabinet/meter box
Installation type* 4:	top hat rail installation
Dimensions:	Height 90 mm / Width 160 mm / Depth 59 mm
Weight:	Approx. 265g
Colour:	orange
CONNECTIONS	
Inputs:	6x digital inputs, 2x analog inputs
Outputs:	2x analog outputs
Interfaces:	1x GSM *2, 1x WiFi, 1x Bluetooth, 1x Ethernet, 1x S0-Bus*3, 2x USB, 1x PT-1000, 2x CAN-Bus, 4x RS485 (terminal resistor selectable), 1x MicroSD card slot
INTERFACE PROTOCOLS	
Modbus:	Connection licences for 5 Business Smart Energy Meter included, extension to up to 90 connection licences (90 Business Smart Energy Meters) possible
MEASUREMENT DATA OUTPUT	
Display type:	2,4 inch / monochrome
Data output:	Internal display / web application
WARRANTY & SUPPORT	
Manufacturer's warranty:	Manufacturer's 2-year warranty
SUPPLIED ACCESSORIES	
Scope of delivery:	1x GSM antenna *2, 1x WiFi antenna, various plugs
Others:	User Manual (German / English)
OPTIONAL ACCESSORIES *1	
Product supplement:	1x Home Smart Energy Meter / Carlo Gavazzi EM 24
Functional extension:	Upgrade to Home Smart Energy Data Logger, -Manager

*1 not included in the scope of delivery
*2 GSM in the "Advanced" version only
*3 S0 output voltage 3,3 Vdc

*4 Device must be installed in a fire protection housing like control cabinet.

Your local partner:



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